Calendar Planner for UbD 4th Grade Unit (4 weeks)
Operations & Algebraic Thinking: Understanding patterns, functions and coordinate plane

Week 1 - Patterns

Vocabulary: pattern, sequence, term, repeating pattern, growing pattern
Objective: Indentify, describe, extend and make generalizations about repeating and growing patterns.

Action	Monday	Tuesday	Wednesday	Thursday	Friday
Essential & Topical Question	Can patterns only be found in repeated decorative designs?	How can change be best represented mathematically?	How can we mathematically extend patterns?	Can anyone create a pattern out of almost anything?	What can we do with the information that we gather from patterns?
Learning Plan	1. Wordsplash of ideas where to find patterns 2. Students will be investigating where they find patterns in life. A. Sight (shapes) B. Sound (rhythms) C. Kinesthetically(Dance) D. Daily actions	1. Students will use patterns they found in class, or from the extension. Model for them. (Repeating pattern) 2. With a partner students will look at their patterns and come up with a "rule" for the pattern	Talk about 2,4,6,8... and 1,2,4,8,16... What would pattern be? (Growing pattern) Work on predicting: 1, 4, 7, 10, 13, 16... 0, 2, 6, 14, 30, 62... 2, 12, 22, 32, 42, 52...	Students will explore creating patterns out of anything that they would like - art, math, in nature, music - they will have half the class period to create something in pairs.	Students will rotate through 6 stations. Madeline Hunter activities from About Teaching Mathematics pgs. 148-156
Assessment	1. Students will provide examples of patterns in life. (i.e.) A. Sight (picture) B. Sound (songs) C. Kinesthetically (movement/dance) D. Daily actions	1. Students will share with class 2. Class will attempt the rule to create the pattern and give feedback, possible suggestions.	1. Students will practice extending the patterns and determining rules in their math journals. 2. Students will come up with one of their own to share with class.	Students will present their creations/patterns to the class. They will explain or teach the "rule" that goes with their pattern.	1. Students will choose to do 3 stations. 2. Students will turn in results of work at 3 stations.
Comments, Extensions & Reflections	Possible extension for the evening - find patterns at home - bring in one to share.	The rules at this point can be a bit far fetched.	Possible extension for the evening - look specifically for growing patterns.	Student work can be displayed in class room.	Talk about the numbers that we get, their relationships and exploring functions next week.